NORTH STAR

Proven Performance

MODEL 6500 DPG, ITEM # 165961
Diesel Portable Generator

M165961B

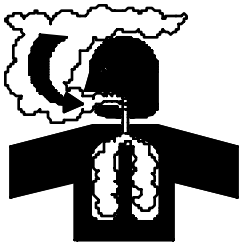
OWNER'S MANUAL

⚠ WARNING

Read this manual.
Serious injury or death can result if safety instructions are not followed.

⚠ DANGER

Fire hazard.
Do not operate in an enclosure or building. Fire or explosion will result.
Never place this product near combustible materials.



⚠ DANGER

Breathing hazard.
Poisonous fumes from engine will kill you.
Do not operate the generator in enclosed areas.
Do not operate generator near building or inside of buildings.

fig01800

Call Customer Service at 1-800-270-0810
Hours: Monday - Friday 7:00 AM to 5:00 PM CST
Saturday 7:30 AM to 11:30 AM CST

THANK YOU

Thank you for purchasing a NorthStar Diesel Series Generator. Your machine is designed for long life, dependability, and the top performance you demand. Please take time now to read through this manual so you can better understand the machine's operation, maintenance and safety precautions. Everyone who operates this generator must read and understand this manual. The time you take now will prolong your generator's life and prepare you for its safe operation. Enjoy the exceptional performance of your NorthStar Diesel Series Generator.

IMPORTANT

Make certain the operator:

- Reads and understands the manuals pertaining to this machine.
- Is instructed in safe and proper operation of this machine.

NOTICE

K-BAR Industries Incorporated reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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SPECIFICATIONS	
Item Number	165961
Maximum Output	6500 Watts (W)
Continuous Output	5500 Watts (W)
Voltage	120 / 240 Volt (V)
Phase	Single phase (4-wire)
Frequency	56.5 - 63.3 Hertz (Hz)
Power Factor	1.0 p.f.
Engine	10 HP HATZ 1B40
Engine Speed	3390 - 3798 RPM
Fuel Type	Diesel
Fuel Capacity	6.5 gallons (24.6 L)
Oil Capacity	1.76 US quarts (1.65 L)
Starting Method	Electric / Recoil
120V Receptacle	20 Amp (A) Duplex GFCI (NEMA 5-20R) 30 Amp (A) Locking (NEMA L5-30R)
120/240V Receptacle	30 Amp (A) Locking (NEMA L14-30R)
Circuit Breakers	30 Amp (A) Magnetic, Qty. 1 20 Amp (A), Thermal type, Qty. 2
Grounding Screw	Receives 10 Ga. Fork Terminal
Battery	12-Volt battery with an ampere-hour rating of at least 36 AH
Dimensions	
Length	34.00” (86.4 cm)
Width	23.25” (59.1 cm)
Height	22.25” (56.5 cm)
Dry Weight	118 lb. (54 kg)
Gross Weight	310 lb. (141 kg)

MACHINE COMPONENT IDENTIFICATION

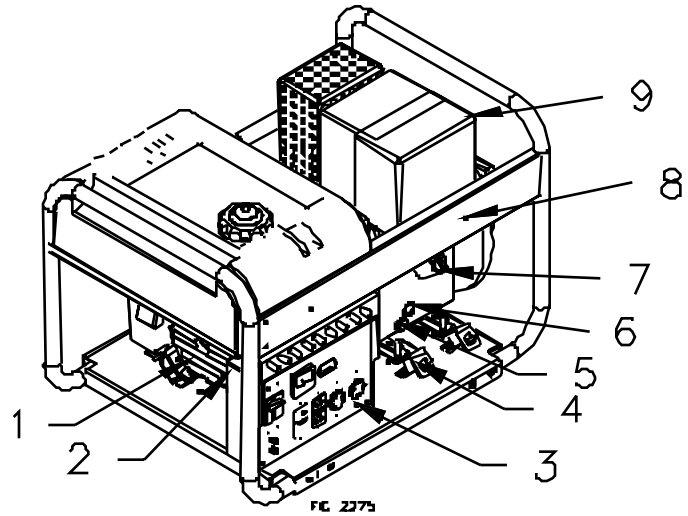


Figure 1 (Ref. 1-9) 2275

Ref.	Description	Ref.	Description
1	Generator	9	Air Cleaner Housing
2	Grounding Screw	10	Recoil Handle
3	Control Panel	11	Muffler
4	Isolation Mounts	12	Battery Box
5	Oil Drain Plug	13	Warning Decals
6	Oil Filter Access Cover	14	6.5 Gallon Fuel Tank
7	Oil Fill and Dip Stick	15	Fuel Cap with Gauge
8	Operation Instructions		

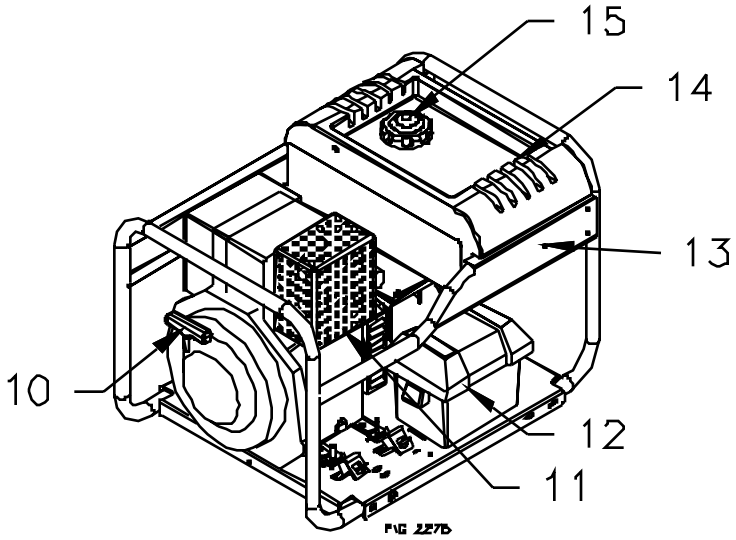


Figure 2 (Ref. 10-15) 2276

GENERATOR FEATURES

Reference 1 – Generator. The generator is equipped with a high quality brushless generator. The generator is maintenance free and will provide years of dependable service. The neutral is bonded to ground.

Reference 2 - Grounding Screw. Ground the generator via the grounding screw, to a copper pipe or rod that is driven into moist soil.

Reference 3 - Control Panel. See Figure 3 for details.

WARNING Contact a licensed electrician to wire electrical plugs and/or cord-sets. Improper wiring could result in a fire or electrical shock.

Reference 4 - Vibration Isolation Mounts. The engine and generator are mounted on rubber mounts that absorb most of the engine vibration. This feature eliminates the tendency of the machine to "walk" which is common with engine powered equipment. If the mounts appear damaged, replace with factory approved parts.

Reference 5 - Oil Drain Plug. Removal of plug allows drainage of oil from the engine. Consult your Hatz engine manual for further details.

Reference 6 - Oil Filter Access Cover. Your Hatz engine is equipped with a reusable oil filter. The filter should be every 1000 hours of use. Consult your Hatz engine manual for further details.

Reference 7 - Oil Fill and Dip Stick. Consult your Hatz engine owner's manual for details concerning oil change intervals.

Reference 8 - Warning Decal. Never operate the generator or engine until all warning labels are fully understood. If warning labels are missing contact our customer service department at 1-800-270-0810.

Reference 9 - Air Cleaner Housing. Refer to the Hatz engine manual for air cleaner care.

Reference 10 - Recoil Handle. Consult your owner's manual for engine starting or refer to page 8 of this manual.

Reference 11 - Muffler. Never operate the generator without the deflector installed in the upright position.

Reference 12 - - Battery Box. Warning: Always wear safety glasses when working on or near the battery. The battery box provides protection for the battery and will accept a standard lawn tractor size battery (Group U1-7). The engine requires a 12 volt battery, with a minimum rating of 36 Ah (Amp-hour). When installing the battery, always connect the red colored ("positive" or "+") cable first. When disconnecting the battery, always remove the black colored ("negative" or "-") cable first.

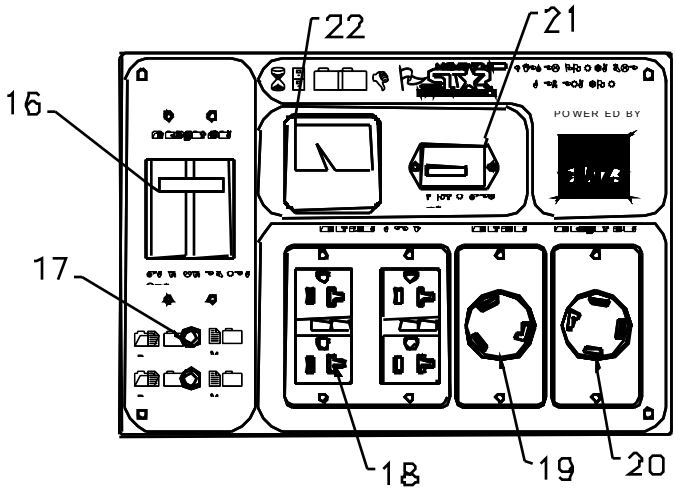
WARNING Sulfuric acid is a corrosive poison. Avoid contact with skin, eyes or clothing. Always wear safety glasses.

Reference 13 - Decal. Decal describes product features.

Reference 14 - 6.5 Gallon Fuel Tank. Large tank allows for extended run capabilities. **Always** allow room for fuel expansion by not filling the tank completely full.

Reference 15 - Fuel Cap with Gauge. The fuel cap is extra large, creating a large hole for refilling and a comfortable grip. You can always monitor the fuel level without removing the cap by using the fuel level indicator built into the fuel cap.

Figure 3 (Ref. 18-26)



Reference 16 - Main Line Breaker. The main line breaker is a two-pole thermo-magnetic circuit breaker. The circuit breaker will protect the generator from overload and short circuit conditions. To reset the circuit breaker move the toggle to the OFF position, then back to the ON position. When this circuit breaker is in the OFF position, all receptacles will be off.

Reference 17 - Thermal Circuit Breakers. The control panel has two thermal circuit breakers. If the circuit breaker trips, a black post will extend from the circuit breaker, push the black post to reset the circuit breaker. If the circuit breaker will not reset, wait two minutes and try again.

Reference 18 – 120 Volt-20 Amp GFCI Duplex Receptacle. The control panel is equipped with four 120 Volt-20 Amp ground fault circuit interrupt (GFCI) receptacles (NEMA 5-20R). The receptacles will accept either NEMA 5-15P or NEMA 5-20P plugs. In the center of each duplex receptacle there is both a test/reset button and indicator lamp. If there is a fault condition with a load connected to a duplex receptacle, the indicator lamp will glow and the reset button will extend. To test the GFCI press the test button and the reset button should extend. The reset button must be pushed to reset the receptacle.

Reference 19 - 120 Volt-30 Amp Locking Receptacle. The control panel is equipped with one NEMA L5-30R receptacle. This receptacle accepts only NEMA L5-30P plugs.

Reference 20 -120/240 Volt-30 Amp Locking Receptacle. The control panel is equipped with one NEMA L14-30R receptacle. This receptacle accepts only NEMA L14-30P plugs. This receptacle is popular for connection to a transfer switch for home standby power. See item #16412 in the NORTHERN catalog.

Reference 21 - Hour Meter. The hour meter allows for monitoring of engine maintenance schedules.

Reference 22 - Voltmeter. The voltmeter allows for monitoring of the generator. The needle should be in the green area for all load conditions.

GENERATOR FEATURES NOT SHOWN

Fuel Shut Off Valve. The fuel tank is equipped with a fuel shut off valve. Always turn the fuel valve to the off position when the generator is not in use. The valve is located underneath the fuel tank.

INTRODUCTION

Before starting your generator, thoroughly study the instructions and cautions in this manual to assure you are fully acquainted with the operation of all components of this generator. Proper preparation, operation and maintenance will result in operator safety, best performance and long life of the generator. For detailed engine operation and maintenance always refer to the Hatz engine owner's manual furnished with the generator.

NorthStar is constantly improving its products. The specifications outlined herein are subject to change without prior notice or obligation. The purchaser and/or user assumes liability of any modification and/or alterations on this equipment from original design and manufacture.

Before using, the user shall determine the suitability of this product for its intended use and assumes liability therein.

ANSI SAFETY DEFINITIONS

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in a death or serious injury.

CAUTION indicates a potentially hazardous situation, which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

RULES FOR SAFE OPERATIONS

Safety precautions are essential when operating this generator. Respectful and cautious operation will considerably lessen the possibilities of a personal injury. This manual will warn of specific personal injury potential, and these will be designated by the symbol:

WARNING This generator is equipped with a grounding screw located on the rear of the generator. Always complete the grounding path from the generator to a copper pipe/rod that is driven into moist earth, to prevent electrical shock.

ALWAYS use electrical cords that are in good condition. Worn, bare, frayed or otherwise damaged cords can cause electric shock.

NEVER operate the generator, or handle any electrical equipment while standing in water, while barefoot, while hands are wet or while in the rain or snow. Electric shock may result.

ALWAYS use a ground fault circuit interrupter (GFCI) in damp or highly electrical conductive areas and on construction job-sites to prevent electric shock.

ALWAYS disconnect the battery before working on the engine or generator. Disconnect the negative cable first then the positive cable. The key should be in the OFF position when disconnecting or connecting battery cables.

ALWAYS provide adequate ventilation. Do not operate generator in any enclosed or narrow space. Engines consume oxygen and give off deadly carbon monoxide poisonous gas. Improper ventilation will cause damage to generator and possible injury to people.

NEVER touch hot muffler, hot exhaust manifold or engine cooling fins.

ALWAYS remove all oil or fuel deposits and accumulated dirt from generator and immediate area. Keep generator and engine clean.

NEVER operate the generator under the following conditions:

A. Excessive change in engine speed, slow or fast.
B. Overheating of load connecting devices.
C. Sparking or arcs from generator.
D. Loss of electrical output.
E. Damaged receptacles.

F. Engine misfire.
G. Excessive vibration.
H. Enclosed compartments, or confined areas.
I. Flame or smoke.
J. Rain, snow or wet conditions.
K. Operator non-attendance.

WARNING Check fuel system on a regular basis. Look for signs of leaks, deterioration, chafed or spongy fuel hose, loose or missing fuel hose clamps, damaged fuel tank or a defective fuel shut-off valve. Correct any defects before operation.

WARNING Keep the fire extinguisher close by your generator, and be familiar on how to use it. Consult your local fire department for correct extinguisher type.

INSTALLATION

OUTDOORS: Choose locations where the generator will not be exposed to rain, snow or direct sunlight. Position the generator on secure, level ground so it will not tip or slide down a hill. Place the generator so that the exhaust fumes will not be directed towards people.

The installation site must be free from water, moisture, or dust. All electrical components should be protected from excessive moisture or the insulation system will deteriorate and result in grounding or shorting out the generating system.

Foreign matters, such as dust, dirt, sand, lint, or abrasive materials can cause damage to the generator head and engine if allowed into its cooling system.

NEVER install your generator inside confined areas. Inside installation can cause health hazards or death.

DANGER Remember, exhaust fumes are deadly carbon monoxide gas, and must be vented to the outside where there are no people. Cooling air of sufficient amounts must be brought in and exhausted out to ensure proper cooling of the engine and generator head.

LOAD APPLICATION

It is important to determine the total electrical load before it is connected to the generator. The two major factors in determining the life of a generator head are: heat build-up, caused by overloading the generator and corrosive contaminants that attack the wiring insulation. If the generator is overloaded, the wires become excessively hot and cause the insulation to break down, reducing its ability to resist corrosive contaminants. Over time the effectiveness of the insulation is eliminated and a dead short can result.

Always compare the generator nameplate data with that of the equipment to be used to ensure that watts, volts, amperage, and frequency requirements are suitable for operating equipment. The wattage listed on the equipment nameplate is its rated output. However, some equipment may require three to ten times more wattage than its rating on the nameplate, as the wattage is influenced by the equipment efficiency, power factor and starting system. NOTE: If wattage is not given on equipment nameplate, approximate wattage may be determined by multiplying nameplate voltage by nameplate amperage.

VOLTS X AMPS = WATTS
Example: 120V X 5A = 600W

When connecting a resistive load such as incandescent lights, heaters or common electric power tools, a capacity of up to the generator full rated wattage output can be used.

When connecting a resistive-inductive load such as a fluorescent or mercury light, transformers or inductive coils, a capacity of up to 0.6 times the generators full rated output can be used.

Always allow the generator to reach operating speed before a load is applied.

STARTING ELECTRIC MOTORS

Electric motors require much more current (amps) to start than to run. Some motors, particularly low cost split-phase motors, are very hard to start and require 5 to 7 times more current to start than to run. Capacitor motors are easier to start and usually require 2 to 4 times as much current to start than to run. Repulsion Induction motors are the easiest to start and require 1.5 to 2.5 times as much to start than to run.

Most fractional motors take about the same amount of current to run them whether they are of Repulsion-Induction (RI), Capacitor (Cap), or Split-Phase (SP) type. The following chart shows the approximate current required to start and run various types and sizes of 120 volt 60 cycle electric motors under various conditions.

120V, 60 Hz Motors		Starting Amps		
Hp motor	Running Watts	RI type	Cap type	SP type
1/6	525	7-11	9-18	16-22
1/4	700	9-15	12-23	22-32
1/3	875	11-18	14-29	26-35
1/2	1175	15-25	20-40	NA
1	1925	24-40	32-64	NA
1 1/2	2400	30-50	40-80	NA
2	2900	36-60	48-96	NA
3	4075	51-85	68-136	NA
5	6750	84-140	112-224	NA

The figures given above are for an average load such as a blower or fan. If the electric motor is

connected to a hard starting load such as an air compressor, it will require more starting current. If it is connected to a light load or no load such as a power saw, it will require less starting current. The exact requirement will also vary with the brand or design of the motor.

Generators respond to severe overloading differently than the power line. When overloaded, the engine is not able to supply enough power to bring the electric motor up to operating speed. The generator responds to the high initial starting current, but the engine speed drops sharply. The overload may stall the engine. If allowed to operate at very low speeds, the electric motor starting winding will burn out in a short time. The generator head winding might also be damaged.

Running the generator under these conditions may result in damage to the generator stator as well as the motor windings. Because the heavy surge of current is required for only an instant, the generator will not be damaged if it can bring the motor up to speed in a few seconds. If difficulties in starting a motor are experienced, turn off all other electrical loads and if possible reduce the load on the electric motor.

EXTENSION CORDS

When electric power is to be provided to various loads at some distance from the generator, extension cords can be used. These cords should be sized to allow for distance in length and amperage so that the voltage drop between the set and point of use is held to a minimum.

Current/Power		Maximum Extension Cord Length			
Amps at 240V	Load (watts)	#10 Ga. Cord	#12 Ga. Cord	#14 Ga. Cord	#16 Ga. Cord
10	2400	250’	150’	100’	75’
20	4800	125’	75’	50’	25’
30	7200	60’	35’	25’	10’
40	9600	30’	15’	10’	*
50	12000	15’	*	*	*

*Not recommended

CAUTION: Equipment damage can result from the low voltage caused by using an extension cord with a small wire size.

Use this chart to estimate the total load on your generator.

For Determining Generator Load Requirements	
Device	**Running Watts**
Air Conditioner (12,000 Btu)	1700 (a)
Battery Charger (20 Amp)	500
Belt Sander (3”)	1000
Chain Saw	1200
Circular Saw (6-1/2”)	900
Coffee Maker	1000
Compressor (1 HP)	2000 (a)
Compressor (3/4 HP)	1800 (a)
Compressor (1/2 HP)	1400 (a)
Curling Iron	700
Dishwasher	1200
Edge Trimmer	500
Electric Nail Gun	1200
Electric Range (one element)	1500
Electric Skillet	1250
Furnace Fan (1/3 HP)	1200 (a)
Freezer	800 (b)
Hair Dryer	1200
Hand Drill (1”)	1100
Hand Drill (1/2”)	875
Hand Drill (3/8”)	500
Hand Drill (1/4”)	250
Hedge Trimmer	450
Home Computer	150
Impact Wrench	500
Jet Pump	800 (a)
Lawn Mower	1200
Light Bulb	100
Microwave Oven	700
Milk Cooler	1100 (a)
Oil Burner on Furnace	300
Oil Fired Space Htr (140,000 Btu)	400
Oil Fired Space Htr (85,000 Btu)	225
Load Requirements, continued	
Oil Fired Space Htr (30,000 Btu)	150
Oven	4500
Paint Sprayer, Airless (1/3 HP)	600 (a)
Paint Sprayer, Airless (handheld)	150
Radio	200
Refrigerator	600 (b)
Slow Cooker	200
Submersible Pump (1-1/2 HP)	2800 (a)
Submersible Pump (1 HP)	2000 (a)
Submersible Pump (1/2 HP)	1500 (a)
Sump Pump	600 (a)
Table Saw (10”)	2000 (a)
Television	500
Toaster	1000
Vacuum cleaner	250
VCR	70
Water Heater	3000
Weed Trimmer	500

(a) Hard-starting motors require 3 to 5 times the rated running watts.

(b) These loads may require up to 15 minutes to restart due to its normal build up of compressor head pressure.

NOTE: For extremely hard to start loads such as air conditioners and air compressors, consult the equipment dealer to determine the maximum wattage.

PRE-START PREPARATIONS

Your generator has been thoroughly tested prior to shipment from the factory. A factory test report has been included with this manual. However, damage can occur during shipping, so be sure to check for damaged parts, loose or missing nuts and bolts. If the aforementioned problems occur, call customer service at 1-800-270-0810.

GROUNDING - All units must be grounded. Drive a 3/4" or 1" copper pipe or rod into the ground close to the generator. The pipe/rod must penetrate moist earth. Connect an approved ground clamp to the pipe. Run a 10-gauge wire from the clamp to the generator grounding screw located at the rear of the generator. Do not connect to a water pipe or a ground used by a radio system.

CAUTION: The engine has been shipped without oil. Fill the crankcase with oil before trying to start.

OPERATING SPEED

The generator must be run at the correct speed in order to produce the proper electrical voltage and frequency. The speed of the engine was carefully adjusted at the factory so that the generator produces the proper voltage and frequency.

The output voltage should be checked to ensure the generator is working properly before connecting a load to the generator. Failure to do so could result in damage to equipment plugged into the unit and possible injury to the individual.

All engines have a tendency to slow down when a load is applied. When the electrical load is connected to the generator, the engine is more heavily loaded, and as a result the speed drops slightly. This slight decrease in speed, together with the voltage drop within the generator itself, results in a slightly lower voltage when the generator is loaded to its full capacity than when it is running with no load. The slight variation has no appreciable effect in the operation of motors, lights and most appliances. Electronic equipment and clocks will be affected if correct RPM is not maintained. See Load vs. Output chart.

Load	Output		
Percent of Generator Output	Speed (RPM)	Frequency (Hz)	Generator Voltage at 120V Receptacle
0 %	3780	63.0	129V
50 %	3600	60.0	120V
100 %	3480	58.0	112V

Output voltage should be periodically checked to ensure continued and proper operation of the generator. The voltage can be checked with a portable voltmeter. Frequency can be checked by using a electric clock, with a sweep second hand. Timed against a wristwatch or stopwatch. The clock should be correct within +/- 2 seconds per minute. A qualified technician should accomplish engine speed adjustments.

BEFORE STARTING

1. Make sure the generator is positioned on a firm level surface.
2. Check the crankcase for oil and maintained at a proper level.
3. Check fuel level and fill tank 7/8 full with diesel fuel. Never fill fuel tank completely to the top. Always wipe up and remove any spilled diesel fuel.
4. Make sure that the exhaust fumes are directed away from people.

ELECTRIC START OF ENGINE

1. Disconnect all loads to generator.
2. Turn gas line valve to ON position.
3. Turn the ignition key to the START position.
4. If the engine does not start after 10 seconds, wait 15 seconds before attempting to start again.
5. If the engine will not start consult the trouble shooting table (page 10).

MANUAL START OF ENGINE

1. Disconnect all loads to generator.
2. Turn fuel line valve to ON position.
3. Turn the ignition key to the RUN position.
4. Grasp the recoil handle and pull until a strong resistance is felt.
5. Let the recoil handle return to the initial position.
6. Push down the decompression lever. The lever is located on top of the engine and is colored RED.
7. Pull out the recoil handle briskly with both hands.
8. If the engine will not start consult the trouble-shooting table (page 10).

CAUTION A battery must always be connected to the battery cables, or engine damage could result.

ENGINE SHUTDOWN

1. Disconnect all loads from generator.
2. Turn the ignition key to the OFF position.
3. Turn the fuel valve to the OFF position.

ENGINE CARE

Refer to your Hatz Owner's Manual for proper care and maintenance.

Refer to your Hatz Owners manual for fuel and oil information.

IMPORTANT: It is possible that the fuel line will need to be bled the first time the fuel tank is filled.

NOTE: When changing the oil on a hot engine, the oil might overshoot the oil drain hole on the generator base. Use a deflector (piece of cardboard or paper) to direct the oil down the hole.

GENERATOR CARE

The generator is a two pole, 3600 RPM, 60 Hz, brushless, revolving field, and synchronous type with one sealed radial roller bearing. The generator rotor is directly connected to the engine crankshaft and the stator is rigidly coupled to the engine casting via the generator adapter casting.

Exercising the Generator - The generator should be operated every four weeks. Warm the generator by starting the engine and letting it run for 10 to 15 minutes. This will dry out any moisture that has accumulated in the windings. If left, this moisture can cause corrosion in the winding. Frequent operation of the engine/generator will also ensure that the set is operating properly should it be needed in an emergency.

Generator Maintenance - The generator head is brushless and maintenance free. Major generator service including the installation or replacement of parts, should be performed only by qualified electrical service technicians. USE ONLY FACTORY APPROVED REPAIR PARTS. Obtain factory parts from Customer Service at 1-800-270-0810.

A. Bearing - The bearing used in the generators is a heavy duty sealed roller bearing, requires no maintenance or lubrication.

B. Receptacles - Quality receptacles have been utilized. If a receptacle should become cracked or otherwise damaged, replace it. Using cracked or damaged receptacles can be both dangerous to the operator and destructive to the equipment.

ENGINE FUEL LINE BLEEDING

If the engine is having difficulty in starting and the fuel and oil levels are acceptable, the problem can usually be traced to air bubbles trapped in the fuel line.

To bleed air from the fuel line:

1: Allow engine to cool down.
2: Turn the fuel valve to the OFF position.
3: Loosen the hose clamp on the fuel line.
4: Pull the fuel inlet line off of the fuel pump.
5: Turn the fuel valve to the ON position
6: Allow one half cup of fuel to drain from the fuel line into a small container.
7. Reattach the fuel line to the fuel injector.

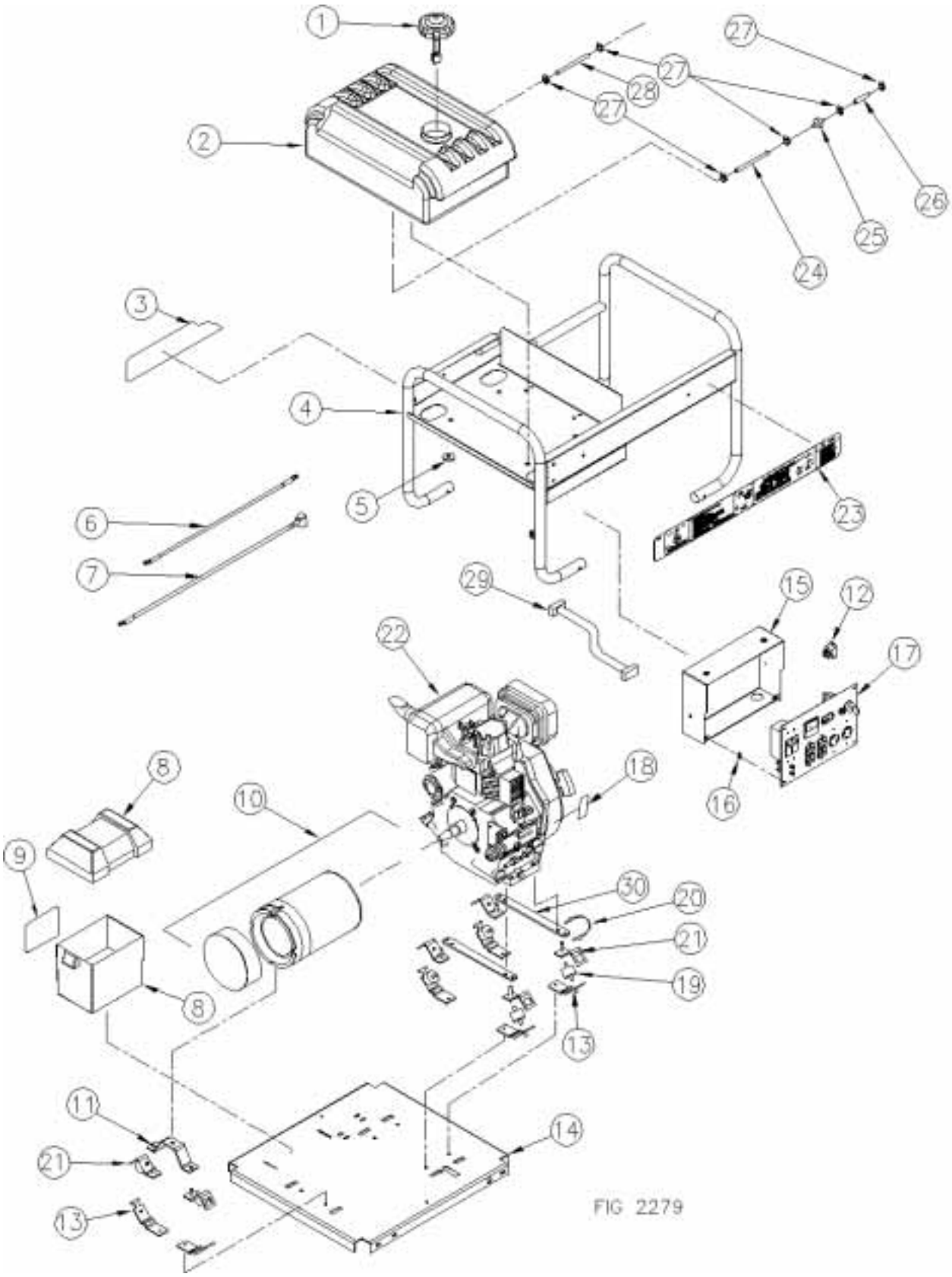
WARNING, Stand-by Operation

If your generator is to be used as a standby electric power source in case of utility failure, it must be installed by a registered and licensed electrician and in compliance with all applicable state and local electrical codes. Also, local Fire Departments must be consulted concerning proper and safe handling procedures for gasoline. **NEVER** connect any generator to any existing electrical system without an isolating, UL approved transfer switch, installed by a licensed electrician.

TROUBLESHOOTING

Problem	Possible Causes	Possible Remedies
Engine will not start.	a) Low oil level. b) Air in the line. c) Out of fuel. d) Battery is defective. e) Fuel Filter clogged. f) Fuel shut off valve is in the OFF position.	a) Fill crankcase to proper oil level. b) Bleed the air from the fuel line. (see page 9) c) Fill fuel tank. d) Charge or replace battery. e) Replace fuel filter. f) Turn the valve to the ON position.
Voltage too low.	a) Engine speed too slow. b) Generator is overloaded.	a) Bring generator to a qualified technician for adjustment. b) Reduce the load. (See Load Application section of this manual.)
Circuit breaker trips.	a) Defective load connected to generator. b) Defective receptacle. c) Generator overloaded.	a) Disconnect load. b) Replace receptacle. c) Reduce the load. (See Load Application section of this manual.)
Voltage too high.	a) Engine speed too high.	a) Bring generator to a qualified technician for adjustment.
Generator overheating.	a) Generator is overloaded. b) Insufficient ventilation.	a) Reduce the load. (See Load Application section of this manual.) b) Make sure there is at least 3 feet of clearance on all sides of generator.
No output voltage.	a) Defective load connected to generator. b) Broken or loose wire. c) Defective receptacle. d) Defective stator. e) Defective rotor. f) Defective capacitor.	a) Disconnect load. b) Bring generator to a qualified technician for repair. c) Replace receptacle. d) Bring generator to a qualified technician for repair. e) Bring generator to a qualified technician for repair. f) Bring generator to a qualified technician for repair.
Engine lacks power.	a) Generator is overloaded. b) Dirty air filter.	a) Reduce the load. (See Load Application section of this manual.) b) Clean or replace air filter.
Engine shuts down during operation.	a) Out of fuel. b) Low oil level.	a) Fill fuel tank. b) Fill crankcase to proper oil level.

Parts Breakdown – Exploded View 165961 Rev. B



Component List 165961 Rev. B

Diag.#	Part #	Description	Qty.
1	33321	Fuel Cap	1
2	38761	Fuel Tank Assembly	1
3	38217	Decal	1
4	35369	Cradle	1
5	30754	Leather Washer	4
6	777108	Battery Cable, Black	1
7	16707	Battery Cable, Red	1
8	777352	Battery Box with Hold Down Strap	1
9	32551	Battery Warning Decal	1
10	E777303	Generator Assembly	1
11	778123	Generator Mount	1
12	36138	Relay	1
13	32844	Lower Bracket	6
14	778118	Base	1
15	38770	Control Panel Weldment	1
16	82067	Clip Nut, 10-32	4
17	778120	Control Panel Assembly	1
18	32769	Nameplate, 6500 DPG	1
19	34172	Isomount	6
20	306459	Engine Ground Wire	1
21	32848	Upper Bracket	6
22	778057	HATZ Diesel Engine	1
23	38321	Decal	1
24	777345	Fuel Line	19”
25	30755	Fuel Filter	1
26	777345	Fuel Line	10.0”
27	171410	Clamp	6
28	777345	Fuel Line	17.0”
29	305564	Wire Harness	1
30	778121	Engine Bracket	2

Wiring Diagram 778120

ITEM	PART NO.	QTY.
1	77B116	1
2	31D85	2
3	306423	1
4	31534	2
5	30648	1
6	30644	1
7	777130	4
8	306422	1
9	31005	1
10	82085	4
11	82004	12
12	82005	12
13	82001	2
14	77B117	3
15	82002	2
16	31964	1
17	38763	1
18	82154	1
B11	31965	1
B14 B41	38772	1
B12	31968	1
B42	31959	1
B13	31962	1
B43	31963	1
B16	31973	1
W17	31974